

CLAIMS

What claimed is:

1. A method comprising:

5 determining a measure of network load;

based on the measure of network load, selecting a keepalive period;

reporting the selected keepalive period to a client station; and

the client station responsively sending a keepalive message to a presence server at a time
determined based on the selected keepalive period.

10 2. The method of claim 1, wherein the client station is a wireless mobile station.

3. The method of claim 1, wherein determining a measure of network load
comprises:

15 the presence server querying a controller that has access to network load information.

4. A presence server in a communication network, comprising:

a first module arranged to receive keepalive messages from at least one client station;

a second module arranged to select a keepalive period based on a measure of network

20 load;

a third module arranged to report the selected keepalive period to the at least one client
station.

5. The presence server of claim 4, wherein the presence server at fixed time intervals polls a controller to obtain network load information.

6. The presence server of claim 4, wherein the communication network is a wireless
5 communication network.

7. The presence server of claim 4, wherein the presence server is coupled to a controller, the controller keeping track of network load information.

10 8. The presence server of claim 4, wherein the presence server is embedded with a controller that keeps track of network load information.

9. A system comprising:
at least one client station;
15 a presence server;
the presence server determining a keepalive period based on network load and sending and indication of the keepalive period to the at least one client station;
the at least one client station sending keepalive signals according the keepalive period.

20 10. The system of claim 9, furthering comprising a controller that has access to network load information.

11. The system of claim 10, wherein the controller periodically pushes network load information to the presence server.

12. The communication network of claim 9 is a wireless communication network.

5

13. The communication network of claim 9 is a packet-switched network.

14. A method comprising:

sending a first keepalive message from a client station to a presence server;

10

selecting a keepalive period based on a measure of network load;

reporting the selected keepalive period to the client station;

using the selected keepalive period to determine when the client station should send a next keepalive message to the presence server;

sending the next keepalive message from the client station to the presence server.

15

15. The method of claim 14, wherein selecting the keepalive period based on the measure of network load comprises:

the presence server selecting the keepalive period based on the measure of network load.

20

16. The method of claim 14, wherein a first keepalive message comprises a Session Initial Protocol message.

17. The method of claim 14, wherein the method is used for dynamically determining keepalive periods in a wireless communication system, the wireless communication system serving one or more wireless mobile subscribers.

5 18. A method comprising:
monitoring changes in network load;
if a change of network is greater than a threshold network load, a presence server selecting a keepalive period based on a current measure of network load;
the presence server reporting the keepalive period to at least one client station;
10 the at least one client station responsively sending a keepalive message to a presence server at a time based on the selected keepalive period.

19. A client station in a communication network, the client station comprising: 6
a receiver;
15 a transmitter;
a timer;
at least one processor;
data storage holding program instructions;
the program instructions being executable by the at least one processor, in response to
20 receiving information defining a keepalive period wherein the keepalive period is selected based on network load, to:
(i) set the timer according to the keepalive period;
(ii) send a new keepalive message through the transmitter when the timer expires.

20. A system for dynamically determining keepalive periods in a wireless communication network, comprising:

at least one base station;

5 a presence server;

a packet-switched network;

the presence server being capable of communicating with the at least one client station through the packet-switched network;

the presence server selecting a keepalive period for the at least one mobile subscriber
10 based on measures of network load, and the presence server reporting the selected keepalive period to the at least one mobile subscriber through the packet-switched network.

21. The system of claim 20, wherein the presence server at fixed time intervals polls a controller to obtain measures of network load.

15

22. The system of claim 20, wherein the presence server determines measures of network load by querying a controller that has access a measure of network load.

23. The system of claim 20, wherein the presence server keeps track of network
20 bandwidth usage.

24. The system of claim 20, wherein the at least one mobile subscriber, upon receiving the selected keepalive period, sends the next keepalive message at a time determined by the selected keepalive period.

5 25. A presence server in a communication network comprising:
a database, the database maintaining a list client stations that are connected to the network; and
a timer;
wherein the presence server is programmed to:
10 receive keep alive messages from at least one client station,
select a keepalive period for the at least one client station based on a measure of network load,
report the selected keepalive period to the at least one client station, and
drop the at least one client station from the database if the presence server does
15 not receive new keepalive message within the selected keepalive period from the at least one client station.

26. A method comprising:
sending a first keepalive message from a client station to a presence server;
20 selecting a keepalive period based on a measure of network load;
reporting the selected keepalive period to the client station;
using the selected keepalive period to determine when the client station should send a
next keepalive message to the presence server;

updating a database of the presence server based on whether the client station has sent a next keep alive message to the presence within the selected keepalive period.